

CONSTRUCTION STANDARD SPECIFICATION

SECTION 01065

ENVIRONMENT, SAFETY, AND HEALTH

FOR CONSTRUCTION AND SERVICE CONTRACTS

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SECTION 01065
ENVIRONMENT, SAFETY, AND HEALTH
FOR CONSTRUCTION AND SERVICE CONTRACTS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Requirements and guidelines in performance of work concerning protection of environment and property, and safety and health of Contractors, Sandia National Laboratories (SNL) and DOE employees, visitors to SNL, and members of the public.
- B. Related Sections: Refer to the following sections for related work:
 - 1. Section 02222, "Selective Demolition."
 - 2. Section 16475, "Primary System Safety Requirements."

1.02 REFERENCES

- A. American National Standards Institute (ANSI)
 - Z41 Personal Protection - Protective Footwear
 - Z89.1 Industrial Head Protection
- B. American Society of Mechanical Engineers (ASME)
 - B30.5 Mobile And Locomotive Cranes
- C. Code of Federal Regulations (CFR)
 - 29 CFR 1926 Title 29-Labor, Part 1926-Safety and Health Regulations for Construction
 - 29 CFR 1910 Title 29-Labor, Part 1910-Occupational Safety and Health Standards

D. Environmental Protection Agency (EPA)

832-R-92-005 Storm Water Management for Construction Activities:
Developing Pollution Prevention Plans and Best Management
Practices

E. National Fire Protection Association (NFPA)

70 National Electrical Code

70-E Standard for Electrical Safety Requirements for Employee Workplaces

1.03 DEFINITIONS

- A. Sandia Contracting Representative (SCR): Person authorized to act as official representative of SNL for specific purpose of administering Contract, including payment authorization and approval for change orders. SCR is the only person who may legally obligate SNL for expenditure of funds, change scope, change level of effort, change terms and conditions, negotiate, and sign documents legally binding SNL commitment. Obligations or promises, implied or expressed, by SNL personnel other than the SCR do not bind SNL in any manner.
- B. Sandia Delegated Representative (SDR): Person(s) named in the Contract who is authorized to act as official representative of SNL for the specific purposes identified in the Contract. SDR shall not exercise supervision over Contractor's employees.
- C. Sandia Construction Observer (SCO): Person(s) authorized to act as official representative of SNL for the specific purpose of acceptance of work in accordance with plans and specifications, coordination of access, scheduling of utility outages, crane inspections, ES&H observations, and securing of permits.
- D. Sandia Construction Safety Officer (CSO): Person(s) authorized to act as official representative of SNL for the specific purpose of review and observation of Contractor's safety plans and performance.

1.04 SUBMITTALS

- A. Contract-Specific Safety Plan: Submit in accordance with requirements of Quality Assurance Article.
- B. Safety Plan Addendum: Submit modification to Contract-Specific Safety Plan, or Activity-Specific Safety Plan if required to address hazards not previously identified in Contract-Specific Safety Plan.
- C. Pollution Prevention Plan: Submit for construction sites greater than five acres, in accordance with requirements of Quality Assurance Article.

1.05 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable environmental, safety, and health laws, rules and regulations, as amended, of the Federal, State and local governments, the Department of Energy (DOE) and SNL.
 - 1. Adhere to safety rules and regulations, access restrictions, and emergency egress procedures which are unique to Contractor's work at SNL-controlled premises as defined in the following sections of this specification, Contract documents, and as determined through consultation with SDR.
- B. Single-Point-of-Contact: Provide on-site individual authorized to act on behalf of their company, and who has authority to take immediate corrective actions. Single-point-of-contact shall conduct and document weekly safety inspections of work site.
- C. Excavation Permit: Obtain permit from the Construction Observer.
 - 1. Obtain an excavation permit prior to start of the following activities:
 - a. Digging, saw-cutting, drilling, coring, or trenching into soil, concrete sidewalks, or asphalt to a depth greater than twelve inches.
 - b. Excavation of soil beneath concrete sidewalks, slabs, or asphalt to a depth greater than 2 inches.
 - c. Excavation into subsurface soil in buildings beneath the slab.
 - d. Scraping, blading, or excavation of any area previously undisturbed or that appears to be undisturbed, such as areas covered by native vegetation and blading or improvements to previously unimproved roads or paths.
 - 2. Area to be excavated shall be shown on Drawing, and identified in the field using white paint. Submit permit requests to Construction Observer no more than 14 days and no less than 6 days prior to start of excavation.
 - 3. Excavation Permit process involves environmental, cultural, and ecological site review to determine if environmental site impacts will occur due to activities related to performance of Work.
 - 4. Permit is task-specific (see permit). Confine excavation activities to those areas identified on permit.
- D. Penetration Permit: Obtain permit from the Construction Observer
 - 1. Obtain penetration permit prior to start of the following activities:
 - a) Penetration into concrete slabs, floors, ceilings, roofs, or walls greater than 2 inches (50mm) in depth (does not include pre-cast concrete).
 - b) Penetration into underground concrete duct banks.
 - c) Penetrations where a site investigation cannot identify possible hidden hazards.

2. Area to be penetrated shall be shown on Drawing. Submit permit requests to the Construction Observer no more than 14 days and no less than 6 days prior to start of penetration.
 3. Permit is task-specific. Confine penetration to those areas identified on permit.
- E. Hot Work Permit: Prior to cutting, welding, open-flame burning, or use of tar kettles and roof solvents, obtain Hot Work Permit form a fire protection contact in SNL's Facilities ES&H Team. Display issued permit in prominent location at work site.
1. Prior to receiving site-specific Hot Work Permit, personnel engaged in the following activities shall view a fire safety awareness videos administered by fire protection personnel in SNL's Facilities ES&H Team. These videos are approximately one (1) hour in combined length.
 - a. Fire watch
 - b. Kettle operator
 - c. Propane/oxy-acetylene torch operator
 - d. Hot air welder
 2. Personnel engaged in fire watch activity shall have demonstrated proficiency (through certification) in fire extinguisher use.
 3. For work, which will impair or inadvertently activate fire protection detection or suppression system, notify the fire protection contact in SNL's Facilities ES&H Team prior to the start of activity.
- F. Surface Disturbance Permit: For surface disturbance activities affecting land area greater than 3/4 acre, sandblasting and other surface preparation, or demolition of any building containing over 10,000 sq. ft. of total area, comply with requirements of Division 1, Section "Selective Demolition."
- G. Storm Water Control: For construction sites greater than five (5) acres, develop and submit Pollution Prevention Plan to SDR for review prior to construction activities. Pollution Prevention Plan shall follow EPA 832-R-92-005, which addresses silt control and other possible storm water impacts. Further guidance may be obtained from SDR. Contractor shall report spills and accidental releases to storm sewer system immediately to SDR.
- H. Sanitary Sewer Discharge: Notify SDR of planned discharges to sanitary sewer system, other than routine sewage, prior to discharge. SDR will review planned discharge, and coordinate authorization from the Sandia Water Quality organization. Report spills and accidental releases to sanitary sewer system immediately to SDR.
- I. Surface Discharge: Notify SDR of planned surface discharges, prior to discharge. SDR will review planned discharge, and coordinate authorization from Sandia Water Quality organization. Report spills and accidental releases immediately to SDR.
- J. Underground Storage Tanks (UST): UST installation and maintenance operations shall comply with New Mexico Environment Department (NMED), UST Bureau requirements. NMED UST Bureau-Certified Contractor shall perform work

activities on UST's. If unanticipated UST is discovered during construction activity, contact SCO for notification to SNL's Facilities ES&H Team.

1.06 INTEGRATED SAFETY MANAGEMENT SYSTEM (ISMS)

- A. General: SNL is committed to performing work safely, ensuring the protection of employees, the public, and the environment. To help meet these commitments, SNL employs an integrated safety management system, which provides the framework for this specification, and the requirements established for contracted construction and service work at SNL.
- B. ISMS Guiding Principles: The following guiding principles are the cornerstone of an effective safety management program, and shall be reflected in the Contractor's demonstrated ability to perform work at SNL.
 - 1. Personnel know and understand their roles, authorities, and accountabilities.
 - 2. Work is planned with appropriate rigor.
 - 3. Hazards are identified, and properly controlled through engineered or administrative processes.
 - 4. Correct standards are identified, and applied to safe work practices.
 - 5. Work is performed by trained, qualified personnel.
 - 6. Safe work processes are evaluated and improved.
- C. Apply ISMS work cycle shown below at task or activity level for construction or service assignments. Depending on size and complexity of work activity, some elements of work-planning phase may not formally be used.
 - 1. Refer to Section I of the Contract for specific requirements for pre-bid visits and conferences. Contractor has the responsibility to visit the Project site, and submit questions regarding ES&H related issues, which may affect his cost or performance, prior to bid.
 - 2. Table 1 provides requirements for demonstrating effective safety management during execution phase of this Contract.



TABLE 1
ISMS Contractor Requirements

Work Cycle Phase	Contractor Requirements
Work Planning *	
Review of SNL Jobsite Hazard Evaluation Checklist	<ul style="list-style-type: none"> Understand Pre-existing conditions which may affect worker safety and health
Pre-Bid Site Visit	<ul style="list-style-type: none"> Identify potential job and site hazards and hazard combinations
Pre-Bid Conference	<ul style="list-style-type: none"> Resolve emergency preparedness responsibilities and any other safety issues not addressed in the request for quote
Bid Submission	<ul style="list-style-type: none"> Commit adequate level of resources for job conditions
Work Hazard Analysis	
Job Safety Analysis	<ul style="list-style-type: none"> Evaluate job-specific and site-specific work requirements and work hazards
SNL Hazard Information	<ul style="list-style-type: none"> Request and incorporate hazard identification and hazard control information supplied by SNL
Job Task Analysis	<ul style="list-style-type: none"> Resolve job assignment and personnel fitness issues
Work Hazard Controls	
Safety Program	<ul style="list-style-type: none"> Identify company safety management policies, processes and procedures
Contract Safety Plan	<ul style="list-style-type: none"> Address all contract-specific safety requirements and protective measures, including combined requirements and combined controls
Pre-Construction conference (for construction activities)	<ul style="list-style-type: none"> Participate in pre-construction meeting with intent of understanding conditions / restrictions identified on the hazard evaluation checklist.
Hazard Awareness	<ul style="list-style-type: none"> Discuss work hazards and controls with employees and sub-contractors prior to initiating new work and at work site meetings.
Work Authorization	<ul style="list-style-type: none"> Ensure that safety plans/corrective action plans are reviewed and work is authorized prior to initiating work or corrective actions
Work Performance	
Job Supervision	<ul style="list-style-type: none"> Ensure that all workers have appropriate safety supervision by Contractor management at all times
Safety Inspections	<ul style="list-style-type: none"> Conduct and document daily workplace inspections, with or without SNL personnel, to identify and correct hazardous conditions and instances of noncompliance with safety plan/requirements
Emergency Response	<ul style="list-style-type: none"> Ensure that all personnel at work site can recognize off-normal or unsafe conditions, and know how to respond
Corrective Actions	<ul style="list-style-type: none"> Implement interim controls for unsafe or off-normal conditions, including notification of workers and the SDR
Work Feedback and Improvement	
Self-Assessment	<ul style="list-style-type: none"> Identify opportunities for safety process and work performance improvements
Performance Reviews	<ul style="list-style-type: none"> Discuss performance strengths and weaknesses with employees and subcontractors
SNL Feedback	<ul style="list-style-type: none"> Communicate suggestions for SNL improvements to the SDR

1.07 CONTRACT-SPECIFIC SAFETY PLAN

- A. General: Submit Contract-Specific Safety Plan that states the nature of work, potential hazards anticipated, and how these hazards will be mitigated, or how workers will be protected from hazards. Contractor shall incorporate subcontractor's Contract-Specific Safety Plan into a single Contract-Specific Safety Plan submitted for review and acceptance.
 - 1. Contract-Specific Safety Plan may be separate, and in addition to Contractor's company Safety Program document on file at Sandia National Laboratories (SNL). Contractor's Safety Program document should provide the information that drives the hazard prevention methods stated in Contract-Specific Safety Plan.
- B. Hazard Mitigation or Protection: Conform to requirements of this specification as applicable to the work activity being performed, as well as accepted methods identified in 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively. Mitigation or protection shall meet the intent of 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively. SNL ES&H requirements that exceed the requirements of 29 CFR 1926 or 29 CFR 1910 are identified in this specification.
 - 1. Address hazards that exist at SNL Project site where work will take place. Include hazards identified in SNL Jobsite Hazard Evaluation Checklist (see Attachment A), as well as hazards that are introduced to Project by construction process.
 - 2. Identify means to inform workers of foreseeable hazards and required protective measures, prior to commencement of work on affected construction operation (task).
 - 3. Lock Out/Tag Out (LOTO): Incorporate applicable requirements for the lock out and tag out of energized electrical and pressurized systems from 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively.
 - 4. Address emergency action. Contractor shall be responsible for transporting personnel with non life-threatening injuries that require medical attention to local medical facilities identified in plan.
 - 5. Safety Officer: Identify Contractor on-site safety officer and alternates. Safety officer shall ensure compliance and implementation of Contract-Specific Safety Plan. This individual shall be subject to acceptance by SDR based upon the scope of work, anticipated hazards, and training and experience of the designated safety officer. Safety officer may or may not be the designated "competent person" as prescribed by 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively. The "competent person" is determined by specific technical qualifications, and employer assigned authorities and responsibilities.
- C. Submit Contract-Specific Safety Plan for review and acceptance by SNL's Facilities ES&H Team, prior to commencement of on-site work.
 - 1. Keep copy of Contract-Specific Safety Plan on site and available to subcontractors, construction observers, and SNL construction safety personnel.

- D. Safety Plan Addendum: Before work activity is performed that involves hazards that were not addressed in original Contract-Specific Safety Plan, submit addendum to Contract-Specific Safety Plan in the form of a modification, or a new activity-specific safety plan for acceptance. New hazards may result from changes to scope of work or unexpected site conditions. Addendum shall identify mitigation or control for new hazard as described in "Contract-Specific Safety Plan" Article above.

1.08 PERSONAL PROTECTIVE EQUIPMENT

- A. General: Provide necessary personal protective equipment (PPE) to be used in performance of work.
- B. Responsibility: Contractor is responsible for safety of personnel on construction job site, and shall ensure that persons visiting job site comply with these requirements. Ensure that Contractor and sub-contractor employees, and visitors on Project job site wear necessary PPE. Contractor has responsibility and authority to deny access to any person entering a construction site if they do not have appropriate PPE.
- C. PPE shall conform to applicable standards, and be in good working condition. PPE shall be appropriate for work hazard to be encountered, and is considered to be the last line of defense against injury or illness.
- D. SNL Site-Specific Requirements
 - 1. Footwear: ANSI Z41-approved safety-toe and/or chemical resistant footwear. Wear when work operations present hazards such as falling objects, pinch points, or material handling which may result in injury to the foot. Otherwise, wear sturdy and durable working boots or shoes, in good repair. Athletic shoes such as running shoes, tennis shoes, clogs, or sandals are not acceptable.
 - 2. Headgear: ANSI Z89.1-approved hard hats. SNL employs a 100% hard hat usage rule at all times during performance of work for SNL construction or service work, unless written waiver is obtained from SDR. Visibly post waiver at job site, or have waiver in possession during performance of work.
 - 3. Clothing: Wear clothing appropriate for task. Shorts, cutoffs, and sleeveless shirts (i.e., muscle shirts, tank tops) are not permitted. Bare backs (shirtless) are not permitted on work site.

1.09 HIDDEN HAZARDS PENETRATION

- A. General: SNL has adopted a five-step approach in an effort to minimize impact to hidden hazards when performing penetration or excavation activities. This process includes: 1) drawing review, 2) site investigation, 3) detection using instrumentation (as appropriate), use of appropriate 4) tools and 5) PPE.

- B. Workers engaging in excavation or penetration activities shall use tools, which are in good working condition and utilize PPE, electrically rated gloves, GFCI protection, double insulated tools as appropriate.
- C. To mitigate risk the contractor shall ensure that adequate site investigation, utilizing methods that would not penetrate hidden hazards (e.g. visual inspection, detection using instrumentation) is performed prior to any excavation or penetration activity. If hidden hazards cannot be identified through site investigation the SDR shall be notified prior to excavation or penetration activities and appropriate PPE shall be worn during the work activity. (Refer to 1.05 C & D for excavation and penetration permit requirements.)

1.10 MEDICAL/HEALTH PROTECTION

- A. Emergency Action: For life-threatening injuries or illnesses, immediately call for medical assistance by dialing 911 on SNL telephone, or (505) 844-0911 on outside/cellular telephone.
 - 1. Post medical and non-medical emergency telephone numbers conspicuously at Project site. Ensure that all employees are aware of medical and non-medical emergency telephone numbers. Placards with emergency telephone numbers can be obtained from SNL construction office.
 - 2. Transport personnel with non life-threatening injuries or illnesses that require medical attention to Contractor's identified medical facility.
 - 3. Electrical Shock: Accompany any employee receiving electrical shock for immediate medical attention to the SNL Medical facility during standard working hours, no matter how minor the shock appears. For non-standard hours, seek medical attention in off-site facility. Notify SCO or SDR immediately after transporting individual to SNL Medical.
 - 4. Notification of Accidents, Injuries, or Illnesses: Submit SF 2050P "Report of Occupational Injury/Illness" to SDR within 24 hours. See Attachment C.
 - a. Non-Emergency Medical Incident: Notify SDR or SCO within 24 hours.
 - b. Serious or Life-Threatening Accident or Illness: Notify SDR or SCO immediately after taking emergency action.
- B. Substance Abuse Prevention and Testing: Use of drugs (including misuse of prescribed substances) or alcohol on site shall be grounds for removal of individual from work site, and may include other corrective action including Contract termination.
- C. Radiological Safety: Employee may not enter area that contains posted radiological sign, signified by radiation symbol on yellow background with black or magenta markings, without prior authorization and SNL-provided training appropriate for radiological hazard.

1. If work is required in posted area, and specific written instructions have not been issued, do not enter area. Contact SDR or SCO for instructions.
2. For performance of Work in posted radiological areas, ensure the following:
 - a. Jobsite Hazard Evaluation for work activity performed in radiological areas.
 - b. Employees understand and follow Jobsite Hazard Evaluation requirements.
 - c. Obtain Radiation Work Permit (RWP), when required by Sandia Radiation Protection Department., and understand and follow provisions and requirements.
 - d. Employees shall be current on radiological training required for site or activity (e.g. General Employee Radiation Training - GERT, RAD Worker I, RAD Worker II).
 - e. Employee shall be 18 years of age or older.
 - f. Comply with Contract requirements for work in radiological areas.
 - g. Comply with Contract-Specific Safety Plan for work as reviewed by SNL.
3. Dosimetry: Workers with appropriate training, and who have elected to work in radiological areas may be required to participate in SNL's external and internal dosimetry monitoring program. Contractors participating in the Dosimetry Monitoring Program shall ensure that their film badges are current. Badges must be returned to SDR for exchange by last day of quarterly expiration date. Failure to exchange in a timely manner may result in loss of film badge.
4. Each project involving use of accountable radioactive source or radiation generating device (RGD) requires prior approval by SDR and SNL's Radiation Protection Department. Examples of such devices include, but are not limited to, soil testing densometers and XRF analytical devices for lead detection. See Attachment B.

1.11 SUSPENSION OF WORK

- A. General: All employees, contractors, and visitors have responsibility and authority to suspend inappropriate or unsafe work activities when those activities present clear and imminent danger to employees, contractors, visitors, the public, or the environment. Personnel may suspend activities they observe or in which they are a participant, if they believe the activity presents an imminent danger.
- B. Upon receiving suspension of work request (oral or written), immediately cease activity, and notify SCO or SDR. Obtain name and telephone number of person requesting suspension, and reason for suspension of work. Work shall not continue on that activity until issue has been resolved.
 1. SCO or SDR may restart activity only after review and approval of oral or written response submitted by Contractor.

- C. Stop Work Order: Stop work order that affects crew for period greater than one (1) hour shall be followed by issuance of formal written Stop Work Order. Work may be restarted only with written work release from SCR. Stop Work Order shall include the following information:
 - 1. Date and time when work was stopped.
 - 2. Reason for work stoppage.
 - 3. Requirements for Contractor to resume work.
 - 4. Date and time when SNL expects corrective actions to be completed, if required.
- D. Work Release: SCR shall provide written work release that includes the following:
 - 1. Reference Stop Work Order
 - 2. Reason for work stoppage
 - 3. Conditions for restart of activity.
 - 4. Specified date and time when work may resume.

1.12 WASTE MANAGEMENT AND DISPOSAL

- A. General Requirements: Waste generated during work activities is considered solid waste, and may be regulated as hazardous waste. Property items and equipment that may be re-used for their intended purpose are not considered waste and shall be managed as U.S. Government Property.
- B. Construction Debris: Lumber, wallboard, non-asbestos insulation, clean concrete, and similar debris shall be transported to a landfill authorized to receive such waste. Reasonable effort shall be made to separate recoverable metals from construction debris. Personnel trash such as papers and food containers should be bagged, removed from the site, and properly disposed of by the Contractor.
- C. Residue Material and Equipment: Intact and dismantled equipment and material removed during the work activity shall remain the property of the Government. If the equipment and material is not reused in the performance of the project, the Contractor shall manage it as residue material and equipment. All residue material and equipment shall be staged by the contractor and evaluated for hazardous and radioactive contamination by SNL personnel before being delivered to the reapplication yard.
- D. Empty Containers: A container that held any chemical (including cleaning products) or hazardous material, except a substance identified as an acute hazardous waste, is defined as an empty container if both of following criteria are met:
 - 1. All material has been removed that can be removed using the practices commonly employed to remove material from that type of container, such as pumping, pouring, or aspirating, and

2. No more than 3% by weight of the total capacity of the container remains in the container.
 3. Containers with capacity of 5 gallons or less that meet above criteria may be thrown in trash. Empty containers with capacity of greater than 5 gallons shall managed as chemical waste. Those containers shall be marked with words "Empty Container" and disposal request number. Containers that held acutely hazardous substance shall be regarded as hazardous waste.
- E. Fluorescent Lamps: Fluorescent and incandescent light bulbs shall be removed from light fixtures and managed as Chemical waste.
- F. Light Ballast: Light fixtures with leaking ballasts or evidence of previous leaking ballasts shall be double bagged or wrapped and disposed of as PCB containing chemical waste. Ballasts that are not clearly marked "NON-PCB" shall be removed from the fixtures and managed as PCB containing waste. Non-leaking ballasts that are clearly marked "NON-PCB" may be left in the fixtures and managed as residue material.
- G. Oil Containing Equipment: Equipment containing oil or other petroleum products shall be drained of oil, and managed as residue material. drained oil shall be managed as chemical waste.
- H. Chemical Waste/Hazardous Waste: SNL manages chemical wastes as regulated wastes. This designation applies to all chemical wastes, used oil, asbestos containing wastes, and PCB containing wastes as examples. Due to regulatory liability, SNL assumes responsibility for management and disposal of chemical wastes. Chemical wastes shall be managed as hazardous waste, unless specific guidance is provided in Contract. Coordinate hazardous chemical waste disposal through SNL's Facilities ES&H Team. The procedure for disposal of chemical/hazardous waste is as follows:
1. Fill out appropriate label and information on container, full date, disposal request number, etc.
 2. Fill out Chemical Waste Disposal Request (CWDR) form, and submit to SDR's designee within 90 days of waste accumulation start date or before volume limit (55 gallons (208 L)) is anticipated. CWDR forms are available from SNL's Facilities ES&H Team.
 3. Ensure compliance with storage requirements until personnel from SNL Waste Operations remove waste.
- I. NORM Materials: Naturally-occurring radioactive materials (NORM) used in commercial products that have measurable radioactivity above SNL established policy (which includes State of New Mexico established limits), shall be managed as radioactive waste when declared waste, and is not deemed for Reapplication. Some examples are:
1. Chemicals with naturally-occurring radioactive material
 2. Ceramic insulators (with some exceptions)
 3. Glass-containing thorium, or uranium for coloring purposes

4. Smoke detectors

- J. Radioactive Waste: Material that is found to have detectable radioactivity above SNL free-release limits shall be managed as radioactive waste. Store and dispose of radioactive waste in accordance with applicable federal, state, and local regulations to minimize impact of waste on personnel, public, and environment.
 - 1. Before removal from the work location, SNL radiation protection technicians shall survey waste generated from Radiological Management Areas.
- K. Mixed Waste: Residue or waste that is found to be both hazardous and radioactive shall be managed as mixed waste through Sandia Radioactive and Mixed Waste Management Organization. Mixed waste can only be generated with written SNL approval.
- L. Transportation of Hazardous Waste: Coordinate transportation of hazardous and chemical waste or material on SNL premises through SNL's Transportation Department. Coordinate transportation of chemical or hazardous waste or material from off-site SNL-controlled premises (leased space) to on-site locations through SNL's Transportation Department.

1.13 WORK SITE IDENTIFICATION

- A. Construction Safety Bulletin Board: Provide and maintain weathertight safety bulletin board in visible location, not less than 3 feet by 5 feet in size. Bulletin shall be used only to post official announcements.
 - 1. For projects over \$50,000, post the following documents and signage:
 - a. Equal Opportunity Posters
 - b. Employment Standards
 - c. Project Davis-Bacon Wage Decisions
 - d. DOE Safety Posters
 - e. Contractor's Accident Prevention
 - f. Fire Prevention
 - g. Emergency Phone Numbers
 - h. First Aid Plan.
 - 2. For projects under \$50,000, provide and maintain legible, durable, and weatherproof 8-1/2 inch by 11 inch sign in visible location with the following information:
 - a. Company name
 - b. Superintendent name

- c. After hours telephone number
 - d. SNL Contract number
 - e. SNL contact name and telephone number
- 3. For all projects, an SNL-reviewed copy of Contractor's Contract-Specific Safety Plan must be readily available at Project site.
- B. Hazard Identification Signage and Barricades: Provide appropriate hazard identification and barricades in accordance with 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively, to warn Contractor personnel and visitors of specific work hazards. Prior to start of work, ensure personnel on site know and understand SNL signage that may be present on site during performance of work.
 - 1. Use flagging and tape barricades only for temporary (less than 24 hour) protection, unless otherwise accepted by SCO. Use orange safety fencing or snow fencing around excavations and trenching. Fencing shall be minimum 4 feet- (1.2 m-) high and secured vertically every 10 feet (3 m).
 - 2. Provide signage in compliance with 29 CFR 1926 and 29 CFR 1910 for construction and service work, respectively. Protect unattended sites with applicable signs and barricades at all times.
- C. Documentation: The following documents shall be available for review at each Project site.
 - 1. Project plans, specifications, and work authorizations
 - 2. All required permits.
 - 3. Contract-Specific Safety Plan
 - 4. Material safety data sheets for on-site chemicals.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 JOBSITE HAZARD EVALUATION

- A. General: This work site has been evaluated for environmental, safety, and health concerns or conditions that pre-exist, and may impact methods and procedures in performance of work.
- B. Jobsite Hazard Evaluation: Does not include hazards that may be introduced during execution of work necessary to meet Contract "Statement of Work." Hazards introduced in performance of work shall be evaluated and mitigated in accordance with existing federal, state, and local regulations, including 29 CFR 1926 and 29

CFR 1910 for construction and service work, respectively, and applicable provisions of this specification.

1. Comply with restrictions or conditions specified for each identified hazard. Do not proceed without full knowledge and understanding of these conditions. If corresponding description, or identified paperwork or permit is not attached for identified hazard, contact SDR or SCO immediately.
- C. Identified Pre-Existing Conditions: Take precautions for pre-existing conditions identified on job site, per Jobsite Hazard Evaluation checklist attached in Contract documents.
1. Comply with restrictions or conditions specified for each identified hazard. Do not proceed without full knowledge and understanding of these conditions. If corresponding description, or identified paperwork or permit is not attached for identified hazard, contact SCR immediately.
- D. Unidentified Hazard: If hazard is encountered during performance of Work which has not been identified, contact SCO or SDR for specific requirements prior to performing work which may impact condition or concern.

3.02 GENERAL PROJECT WORK PRACTICES

- A. Mobile Cranes: Prior to start of activity using mobile crane, notify SDR forty-eight hours in advance of scheduled arrival time. This notification allows the SCO time to review the project documentation, and to conduct an inspection of the crane coming onto SNL property.
1. Crane inspection by the SCO shall include, but not be limited to verification of license or training, load charts, inspection reports, and physical verification of ropes, slings, undercarriage, outriggers, and boom. Additionally, SCO shall document review of crane placement, and lifting plan or sequence with the Contractor and Contractor's crane operator.
 2. Provide proof of inspection and load tests in accordance with 29 CFR 1926 and ANSI B30.5.
 3. Crane operators shall be properly trained and experienced in operation of crane or hoisting device. Crane operator shall have one of the following in possession during crane inspection and operation:
 - a. Valid State of New Mexico Crane Operator's License
 - b. Certification that indicates completion of an industry-recognized, in-house training course based on American National Standards Institute (ANSI) standards for hoisting operators, and who is employed by the entity that taught the training course or contracted to have the training course taught.
- B. Contractor's Staging Area: SDR shall approve staging area locations prior to utilization. Stored vehicles and equipment, intended for use on SNL property, shall be in serviceable and safe operating condition. Immediately repair, or remove defective or unsafe equipment from SNL property until proper repairs are completed.

1. Staging area shall not be used for storage of hazardous materials not intended for timely use (within 30 days) for work activity. Remove or dispose of excess hazardous material in accordance with "Waste Management and Disposal" Article.
- C. Temporary Buildings/Storage Areas: Obtain approval from SDR for location of temporary buildings and storage areas prior to scheduled delivery of building or material.
- D. Overhead Work: Schedule work required to be performed above occupied areas for non-standard hours, unless specific and approved precautions including signage, barricades, occupant consent, and any other precaution deemed necessary by SNL is provided in advance of operation. Final approval for work in occupied areas during normal work hours must be received from SDR.
- E. Lock Out/Tag Out (LOTO): Notify SCO minimum of 24 hours in advance of activity requiring utility or equipment shutdown.
- F. Confined Space Entry: Comply with provisions of 29 CFR 1910.146, "Permit-Required Confined Spaces," for access to permit-required confined spaces. Contractors are responsible for developing and issuing confined space entry permits. Confined spaces include, but are not limited to: storage tanks, vessels, vaults, manholes, sewer pipes, boilers, tunnels, and in some instances excavations.
 1. Permit spaces are typically labeled in the following manner: "DANGER Confined Space - Entry by Permit Only," or similar type language. Non-permit spaces are typically labeled in the following manner: DANGER Confined Space - Entry by Authorized Personnel Only". In questionable areas that appear to qualify as a confined space, the absence of appropriate signage shall not be interpreted to mean that the area is not a confined space.
 2. All confined spaces, permit-required and non-permit, at minimum shall be tested first for oxygen, then for combustible gases and vapors, and then for toxic gases and vapors prior to entry. Atmospheric monitoring for the duration of the activity is also required.
 3. Personnel making a confined space entry shall follow the procedures established in Attachment D, "Rescue of Personnel in Confined Spaces at SNL/NM" in establishing their confined entry plan. A "Confined Space Permit Sign In/Sign Out Sheet," provided as Attachment E, is used to maintain an accurate, real time tracking of entrants for emergency response. The use of Attachment E only becomes necessary when the permit extends beyond a single day, or different entrants other than those initially identified on the permit are involved in the entry activity. Deviation from the procedures shall require an explanation for each deviation.
 4. If a "Hazardous Atmosphere" as defined by OSHA (<19.5% oxygen or >23.5%; LEL > 10%; toxics > allowable) is detected through monitoring, **NO ENTRY IS ALLOWED**. Contact the SDR and Construction Inspector immediately.
 5. Inspection shall be performed on all equipment prior to use to ensure proper working condition.

6. Personnel shall perform a function test ("field calibration") on the atmospheric monitoring instrumentation immediately prior to use to ensure proper working condition.
7. Contractors entering permitted confined spaces shall submit a written copy of their plan that complies with provisions stipulated in 29 CFR 1910.146. The written plan shall also include the following information:
 - a. Specific location of the confined space (building, room, space type; if the space is outside, indicate the direction [NW, SE, etc.] from the closest building)
 - b. Identification of individual or personnel serving as the Entry Supervisor (for purposes of overseeing the entry activity), Entrant, Attendant, and Atmospheric Monitor
 - c. Identification of Competent Person
 - d. Identification of communication equipment used to contact emergency personnel, and, means used to communicate between the Entrant and Attendant
 - e. Identification of retrieval equipment and specific conditions of use
 - f. Method used to coordinate entry operations with the host employer when employees of host employer, Contractor company, and/or additional contractors will be working in or near a permit space
 - g. Method used to communicate the discovery of any hazards encountered in the permit space during operations
- G. Electrical Equipment Safety: Provide Underwriters' Laboratories (UL) or Nationally Recognized Testing Laboratory listed/labeled electrical devices and equipment per NFPA 70 and 70-E, and Occupational Safety and Health Administration requirements.
 1. Comply with current National Electric Code provisions, and provide listed ground-fault circuit interrupter (GFCI) protection for 120-volt, single-phase, 15- and 20-ampere receptacle outlets on work sites which are not part of permanent wiring of building or structure, and which are in use by employees.
 2. Receptacles on ends of listed extension cords are not part of permanent wiring, and shall be protected by GFCI whether or not listed extension cord is plugged into permanent wiring.
 3. Extension cords shall be free of cuts and exposed conductors. Cord caps and receptacle replacements shall be made with approved materials rated for conductors. Provide GFCI protection for extension cords, between power source and employee.
 4. Temporary Lighting and Emergency Lighting: Provide adequate lighting to maintain minimum illumination set by 29 CFR 1926.26 and Subpart D. Install emergency illumination (automatic battery-powered lights) in areas that would

be dark during power failure (i.e. basements, non-windowed buildings). Lighting systems shall not have GFCI protection.

- H. Electrical Work On or Near Exposed Energized Parts: Applies to work involving installation or alteration of systems such as branch circuits, panelboards, motor control center distribution, distribution transformers, switchboards, bus ducts, disconnects, lighting terminal cabinets, and other building distribution type systems.
1. Exposed energized parts are defined as items located within “limited approach boundary” as defined by NFPA 70-E, Table 2-1.3.4.
 2. Working on energized parts is defined as coming in contact with live parts with the hands, feet, or other body parts, with tools, probes, or with test equipment, regardless of the personal protective equipment a person is wearing.
 3. Work near exposed energized parts is any activity inside “limited approach boundary.”
 4. When working on or near energized parts in hallway, corridors, or other area used for passage, maintain working space barrier with caution tape and signage. Working space boundary for barriers shall be as defined at the “limited approach boundary.”
 5. Do not leave exposed energized parts unattended in area occupied by other than construction or service personnel. Do not leave exposed energized parts without providing working space barrier at the “limited approach boundary.”
 6. Comply with the following when working on energized electrical parts:
 - a. Notify SCO before proceeding with work.
 - b. Electrical work on energized electrical parts shall be performed by qualified individual with second qualified person available.
 - c. As a minimum, individuals performing work on energized electrical parts shall be either New Mexico licensed electricians, or State Certified Apprentice in their last year or journeyman electrician who has been trained by recognized trade or union training program.
 - d. Individual shall be knowledgeable and experienced in working with specific type of electrical circuits on which energized electrical work is to be performed. See Division 16 "Primary Systems Safety Requirements" for additional requirements.
 - e. Request authorization from SDR prior to working on exposed energized parts.
 - f. Only use approved insulated tools, including fish tapes, approved for contact with energized parts when distance to exposed energized parts is less than one foot (305 mm).
 - g. Use appropriate personal protective equipment as required. The level of personal protective equipment to be used shall be determined by the requirements identified in NFPA 70-E, Part II, “Safety Related Work

Practices,” Chapter 3, “Personal and other protective equipment.” Equipment may include: safety glasses, face shield, insulated gloves, and fire-resistant clothing such as cotton, denim, flannel or other appropriately rated fire resistant clothing. Clothing shall cover entire body from neck to hands and feet.

- h. Provide team of two personnel for work on energized parts.

END OF SECTION

ATTACHMENT A

Jobsite Hazard Evaluation Checklist

ATTACHMENT B

Radioactive Source Activities Requiring SNL Control

ATTACHMENT C

SNL Form SF 2050P "Report Of Occupational Injury/Illness

ATTACHMENT D

Rescue of Personnel in Confined Spaces at SNL/NM

ATTACHMENT E

Confined Space Permit Sign In/Sign Out Sheet